

ABSTRACT

To a neutral point of a motor (14) is connected a positive
5 electrode of an auxiliary battery (18) and an auxiliary load
(20). Voltage on a power supply line to the auxiliary load
(20), a neutral point voltage, is detected, and disconnection
of the auxiliary battery (18) is determined when an increase of
ripples in the neutral point voltage is detected. When a
10 voltmeter cannot be used, control of the neutral point voltage
is continued by measuring current of the auxiliary battery and
performing control such that the current value becomes 0. A
resolver is further provided on the motor (14) for detecting
the rotor angle with high accuracy. A control circuit
15 generates, in accordance with an output of the resolver, a
voltage control signal for each phase current having the same
amplitude as the carrier amplitude during startup, and compares
the voltage control signal to carrier to obtain a gate signal
having the same frequency as the carrier frequency. In
20 switching of the inverter (12), due to this gate signal,
periods in which all phases are on or off are reduced, thereby
preventing a large neutral point current.